

**ABSTRACT**

An exemplary embodiment of the invention is a method of detecting network elements in an optical communications network. The method includes an initiating network element generating a neighbor discovery message including a requested hierarchy level at which neighbor discovery is requested and transmitting the neighbor discovery message downstream along the optical communications network. A downstream network element receives the neighbor discovery message, determines if the downstream network element operates at the requested hierarchy level. The downstream network element generates a responding neighbor discovery message if the downstream network element operates at the requested hierarchy level and transmits the responding neighbor discovery message to the initiating network element. Alternate embodiments include a system and storage medium for implementing the method.